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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,597	11/14/2001	Kenji Ose	SIC-00-001-4	3657

7590 09/05/2006

DELAND LAW OFFICE
P.O. Box 69
Klamath River, CA 96050-0069

EXAMINER

KIM, CHONG HWA

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 09/05/2006

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/992,597
Filing Date: November 14, 2001
Appellant(s): OSE, KENJI

MAILED

SEP 05 2006

GROUP 3600

James A. Deland
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed Jun 14, 2006 appealing from the Office action mailed Jun 8, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

3,766,793	Knop	10-1973
3,965,763	Wechsler	06-1976
3,398,600	White et al.	08-1968

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 34-37, 43-47, 49-52, 73, and 74 are rejected under 35 U.S.C. 102(b) as being anticipated by Higuchi, WO 92/19488.

Higuchi shows, in Figs. 1-6, a bicycle shift control device comprising;

a base member 6b;

an attachment band 6a extending from the base member, wherein the attachment band is structured to surround a handlebar and has a substantially cylindrical shape;

a rotatable dial 9 coupled to the base member for rotation coaxially around a rotational axis, wherein the rotatable dial is exposed to the outside;

wherein the rotatable dial is not structured to surround a handlebar so as to rotate coaxially around the handlebar;

a motion limiting structure 22 coupled to the base member and to the rotatable dial that limits a range of rotation of the rotatable dial relative the base member to a predefined arc in at least one of a clockwise and a counterclockwise direction, wherein the rotatable dial moves

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unobstructively within the predefined arc between a cable pulled position and a cable released position;

a finger contact projection 8 extending from the rotatable dial in a direction of the rotational axis;

wherein the finger contact projection is structured to prohibit the extension of a finger between all portions of the finger contact projection and the rotatable dial;

wherein the finger contact projection is structured that the shift control device can be operated by placing two fingers or a finger and a thumb on opposite sides of the finger contact projection such that the rotational axis is sandwiched between and adjacent the two fingers or the finger and the thumb;

wherein the finger contact projection protrudes radially inwardly from a radially innermost outer peripheral surface of the dial so that the shift control device can be operated by grasping the finger contact projection with the two fingers radially inwardly from the radially innermost outer peripheral surface;

wherein the finger contact projection extends in close proximity to the rotational axis;

a shift element coupler 12 disposed with the rotatable dial;

wherein the finger contact projection is coupled to the rotatable dial so that rotation of the finger contact projection correspondingly rotates the rotatable dial to move the shift element coupler and thereby operate the shift control device;

wherein the finger contact projection extends at least partially in a direction perpendicular to the rotational axis;

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wherein at least one of the dial and the base member includes a coupling projection 7 for coupling the dial to the base member;

wherein the coupling projection is disposed on the dial and extends into an opening in the base member;

wherein the attachment band includes a first mounting hole that aligns with a second mounting hole (as shown in Fig. 1);

wherein the shift element coupler is attached to the rotatable dial;

wherein the shift element coupler is fitted within a coupler bore formed in the rotatable dial;

wherein the shift element coupler includes cable end bead receiving opening 13;

wherein the shift element coupler has a substantially cylindrical shape, and wherein the cable end bead receiving opening extends diametrically through the shift element coupler;

wherein the motion limiting structure comprises a motion stop 22 that cooperates with a first limit stop and a second limit stop (as described in the Abstract);

wherein the motion stop extends from the base member;

wherein the first limit stop and the second limit stop are disposed on the rotatable dial;

wherein the rotatable dial includes a motion limiting groove 23 that forms the first limit stop and the second limit stop (as described in the Abstract); and

wherein the attachment band has a substantially cylindrical shape.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 34-37, 40, 41, 44, 49-51, 53, 61-65, 73, and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wechsler, U.S. Patent 3,965,763 in view of Higuchi, WO 92/19488 and in view Knop, U.S. Patent 3,766,793.

Wechsler shows, in Figs. 1-3, a bicycle shift control device comprising;

a base member 33;

an attachment band (the vertically extended band that partially surrounds the handle 11 as shown in Fig. 4) extending from the base member;

a rotatable dial 22 coupled to the base member 33 for rotation coaxially around a rotational axis (bolt 34), wherein the rotatable dial is exposed to the outside;

wherein the rotatable dial is not structured to surround a handlebar so as to rotate coaxially around the handlebar;

a motion limiting structure 37, 38 coupled to the base member and to the rotatable dial that limits a range of rotation of the rotatable dial relative the base member to a predefined arc in at least one of a clockwise and a counterclockwise direction, wherein the rotatable dial moves unobstructively within the predefined arc between a cable pulled position and a cable released position;

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a finger contact projection 32 extending from the rotatable dial in a direction of the rotational axis;

wherein the finger contact projection is structured to prohibit the extension of a finger between all portions of the finger contact projection and the rotatable dial;

wherein the finger contact projection is structured such that the shift control device can be operated by placing two fingers or a finger and a thumb on opposite sides of the finger contact projection such that the rotational axis is sandwiched between and adjacent the two fingers or the finger and the thumb;

wherein the finger contact projection extends in close proximity to the rotational axis;

a shift element coupler disposed with the rotatable dial (column 4, lines 46-50);

wherein the finger contact projection is coupled to the rotatable dial so that rotation of the finger contact projection correspondingly rotates the rotatable dial to move the shift element coupler and thereby operate the shift control device;

wherein the finger contact projection extends at least partially in a direction perpendicular to the rotational axis;

wherein at least one of the dial and the base member includes a coupling projection 34 for coupling the dial to the base member;

wherein the coupling projection 34 is disposed on the dial and extends into an opening in the base member (see Fig. 4);

wherein the rotatable dial and the finger contact projection are one piece;

wherein the base member includes a cable guide having a cable guide opening for receiving a cable therethrough;

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an attachment band extending from the base member 33;

wherein the motion limiting structure comprises a motion stop 38 that cooperates with a first limit stop (gear position number 1) and a second limit stop (gear position number 10);

wherein the motion stop 38 extends from the base member; and

wherein the first limit stop and the second limit stop are disposed on the rotatable dial;

but fails to show an attachment band in a cylindrical shape that surrounds a handlebar; the finger contact projection protrudes radially inwardly from a radially innermost outer peripheral surface so that the shift control device is operated by grasping the finger contact projection with the two fingers radially inwardly from the radially innermost outer peripheral surface; two finger contact surface that faces in the perpendicular direction to the rotational axis and forms a continuous surface with the dial; and the projection extending across substantially an entire diameter, through the rotational axis, and perpendicular to the surface or outer portion of the dial towards the rotational axis of the dial.

As to the matter of the attachment band, Higuchi shows, in Fig. 2, a bicycle shift control device comprising an attachment band 6a extending from a base member 6b, wherein the attachment band is structured to surround a handlebar 1 and has a substantially cylindrical shape.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the cumbersome attachment band of Wechsler with the handlebar surrounding attachment band as taught by Higuchi in order to provide a simpler and an easier method of attaching the shift control device on a bicycle so that a cost of manufacturing can be reduced.

As to the matter of finger contact projection, Knop shows, in Fig. 1, a gear shift control device 10 comprising a base 22; a rotatable dial 10 coupled to the base member for rotation coaxially around a rotation axis 14, wherein the rotatable dial is exposed to the outside; a finger contact projection 16 extending from the rotatable dial in a direction of the rotational axis; wherein the finger contact projection is structured to prohibit the extension of a finger between all portions of the finger contact projection and the rotatable dial; wherein the finger contact projection extends in close proximity to the rotational axis; a shift element coupler 24 disposed with the rotatable dial; wherein the finger contact projection protrudes radially inwardly from a radially innermost outer peripheral surface so that the shift control device is operated by grasping the finger contact projection with the two fingers radially inwardly from the radially innermost outer peripheral surface; wherein the two finger contact surface that faces in the perpendicular direction to the rotational axis and forms a continuous surface with the dial; wherein the finger contact projection extends across substantially an entire diameter of the dial; wherein the finger contact projection extends through the rotational axis; wherein the finger contact projection extends diametrically across substantially an entire diameter of the dial; wherein the finger contact projection extends from a surface of the dial that is generally perpendicular to the rotational axis; and wherein the finger contact projection extends from an outer portion of the dial towards the rotational axis.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the dial of Weschler with the dial having the vertically extending finger contact projection as taught by Knop in order to provide a more ergonomic knob that can be turned with more ease.

Claims 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wechsler in view of Higuchi as applied to claims 34, 36, and 37 above, and further in view of White et al., U.S. Patent 3,398,600.

Wechsler in view of Higuchi shows, as discussed above in the rejections of claims 34, 36, and 37, the bicycle shift control device comprising the coupling projection extending into the opening in the base member, but fails to show the coupling projection includes a slot and a locking abutment.

White et al. shows, in Figs. 4 and 5, a rotatable dial 26 comprising a coupling projection 22 having a slot 34 that allows the coupling projection to be compressed and wherein the coupling projection includes a locking abutment 40 facing the rotatable dial 26 for locking the rotatable dial to the base member.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the coupling projection of Wechsler with the snap-in coupling projection as taught by White et al. in order to provide a simpler design wherein the tolerances between the projection and the receiving end need not be accurately controlled, as described in column 2, lines 1-2 of White et al. so that the cost of manufacturing can be reduced.

(10) Response to Argument

Rejection under 35 USC 102(b) over Higuchi.

Claims 34-37, 43-47, 49-52, 73, and 74.

In response to the appellant's argument that Higuchi fails to show the rotational axis being sandwiched between the two fingers, it is the examiner's view that Higuchi shows the

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possibility of such configuration. There are numerous ways for an operator to rotate the shifter. One may use only one finger, or two fingers, or even all of the fingers according to one's preference. Furthermore, in Higuchi's case, it is possible to use the thumb and the index fingers to wrap around the dial portion 9 and engage the thumb on one side of the finger contact projection 8 and the index finger on the other side of the projection 8, thus positioning the rotational axis sandwiched between the two fingers.

In response to the appellant's argument that Higuchi fails to show the projection protruding radially inwardly from the radially innermost outer peripheral surface of the dial as required by claim 34, it is the Examiner's interpretation that the projection 8 of Higuchi at least extends radially inwardly from the radially inner most outer peripheral surface of the dial 9. Higuchi shows, in Fig. 2, a slanted/sloped portion of the projection 8 that is overextended onto the bottom surface of the dial 9. This overextension of projection 8 can be construed to be protruding radially inwardly from the radially innermost outer peripheral surface of the dial 9.

In response to the appellant's argument that Higuchi fails to show "the finger contact projection to be structured such that the two fingers or the finger and the thumb abut against the rotatable dial in a direction of the rotational axis when the two fingers or the finger and the thumb press in the direction of the rotational axis," as recited in claim 73, it is the Examiner's view that the finger contact projection 8 of Higuchi is structured so. As discussed above, it is possible to use the thumb and the index finger to wrap around the dial portion 9 and engage the thumb on one side of the finger contact projection 8 and the index finger on the other side of the projection 8, thus allowing the finger and the thumb abut against the dial in the direction of the rotational axis.

In response to the appellant's argument that Higuchi fails to show any evidence that the device has the capability to be used in the manner suggested by the office action, it is reminded that the manner of operating the device does not differentiate apparatus claim from the prior art. (see MPEP 2114). A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d, 1647 (Bd. Pat. App. & Inter. 1987). Certainly, as discussed above, all the structural limitations of the claims has been met by Higuchi and such structures would reasonably provide the capability to use the device in the manner recited in the claims.

Rejection under 35 USC 103(a) over Wechsler in view of Higuchi and Knop.

Claims 34-37, 40, 41, 44, 49-51, 53, 61-65, 73, and 74.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine or modify may be found in the reference and in the knowledge generally available to one of ordinary skill in the art. It is a common knowledge that there exist many different types of dial which are manipulated/actuated manually. Some are actuated via an extended lever attached thereto. Some are rotated using outermost surface of the

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dial. And some are manipulated by a finger gripping projection extended from the dial axially.

It is not required to provide a clearly written evidence to show that why each type of dial is preferred over others, since such dials have been in use for more than 100 years. In other words, it does not require a “rocket scientist” to figure out which type of dials fit which environment in which the dials are to be used. Therefore, one of ordinary skill in the art may see that the shift control of Weschler includes every element and functionality that one may need, or in this case the limitations as set forth in the claims, except the finger contact projection as recited in claims 34 and 74. To some, it could be that the wide circular grip as shown by Weschler is too cumbersome to grip or rotate, perhaps because of the physical limitations of the operator. However, whatever the reason might be, the finger contact projection as shown by Knop clearly provides a teaching to modify the gripping portion of the Weschler so that only a couple of fingers is required to actuate the device. For an operator with physical limitations, such finger contact projection as taught by Knop would provide an easier way to actuate thus providing more comfort. The reasoning above is not unfounded or a wild speculation and is not based on improper hindsight reconstruction.

In response to applicant's argument that the modification of Weschler with Knop would completely change the mode of operation of Weschler, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

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Rejection under 35 USC 103(a) over Weschler in view of Higuchi and White.Claims 54 and 55.

In response to the appellant's argument that there is no evidence of the benefit applied to the device of Weschler by modifying with White, it is the Examiner's position that White et al. clearly teaches the reason for such snap-in coupling means, as described in column 2, lines 1-2, wherein such snap-in coupling would provide tolerances between the male and female parts so that the engagement need not be accurately controlled. Furthermore, Weschler shows the coupling means as the threaded shaft and the nut in Fig. 4 which are used to attach the dial 22 to the base member 33. It is common knowledge in the art of connection that a snap-in coupling requires less time to assemble than a nut and threaded bolt engagement. Therefore, it is also advantageous to use the snap-in technique to increase the productivity.

In response to applicant's argument that the modification of Weschler with White would destroy the device of Weschler, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Furthermore, it would be obvious to a person of ordinary skill in the art to strengthen the snap-in engagement portions with a stronger material so that they would withstand enough operational force if needed.

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

chk

Conference held on Aug 29, 2006:

Richard Ridley, SPE



Vinh Luong, Primary Examiner

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